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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,609	11/08/2001	Cyrille Casset	8707.2132	2483

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EXAMINER

SCHAETZLE, KENNEDY

ART UNIT	PAPER NUMBER
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3762

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,609

Applicant(s)

CASSET ET AL.

Examiner

Kennedy Schaetzle

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: the comma on line 8 of claim 1 should be deleted along with the third occurrence of the word "a" on the penultimate line. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kieval et al. (Pat. No. 5,626,620).

Kieval et al. disclose an implantable medical device comprising typical means for detecting atrial and ventricular events (note inputs to amplifier 360 of Fig. 3) and means for delivering atrial and ventricular stimulation (see outputs of element 340). As is well-known in the cardiac stimulation arts, ventricular stimulation is delivered after a programmed AV delay following a detected atrial event and in the absence of a ventricular event within the AV delay. Kieval et al. disclose means for detecting a fusion situation (note for example the microprocessor 304 and the associated algorithms for controlling the microprocessor shown in the drawings). The means for detecting a fusion situation is able to analyze a sequence of successive cardiac cycles by modifying the AVD from a first cardiac cycle to a following cardiac cycle (note Fig. 6A and in particular the loop created with box 648 for modifying the AVD). The fusion situation detecting means is also capable of detecting the presence or the absence of a spontaneous ventricular event occurring inside the modified AVD (note decision diamond 653). The microprocessor further determines an existence of a risk of fusion response to a detected spontaneous ventricular event during at least one of the cardiac cycles of the sequence (note decision diamond 657). The percentage of fusion is a

quantity indicative of the number of fusion events occurring over a number of cardiac cycles and is therefore indicative of the risk of fusion events over subsequent cycles. If for example the percentage of fusion is found to be relatively high during the test, the risk that fusion will occur in the future is considered likely and the AVD is adjusted accordingly to lower the risk (see Fig. 4B).

Allowable Subject Matter

4. Claims 2-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Concerning claim 2, there does not appear to be a teaching in the prior art of record for modifying the Kieval et al. device for lengthening the AVD during at least three successive cardiac cycles.

Regarding claim 3, there does not appear to be a teaching in the prior art of record for modifying the Kieval et al. device to shorten and lengthen the duration of the programmed AVD with the recited sequence including at least three cardiac cycles having a short AVD, a programmed AVD, and a long AVD respectively.

Regarding claim 6, while Kieval et al. teach that it is important to maximize capture by optimizing the AVD, there is no teaching for inhibiting the detection of capture in the event of a proven risk of fusion.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Bornzin et al. reference discloses to inhibit the threshold determination and the back-up stimulation that would normally occur after a loss of capture determination, in the event that fusion is discovered. There is no teaching to inhibit if there is a proven risk of fusion.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kennedy Schaetzle whose telephone number is 703 308-2211. The examiner can normally be reached on M-F 9:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 703 308-5181. The fax phone number for the organization where this application or proceeding is assigned is 703 872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0858.

KJS
December 6, 2003


KENNEDY SCHAETZLE
PRIMARY EXAMINER